

REMARKS

Support for the amendment to claims 1, 16, and 31 is found at the following places in the specification:

Borosilicates – Pg. 2, l. 26-28; Pg. 15-17, Table 1 CIT-1, SSZ-33, ERB-1, B-MFI, B-Beta

Zincosilicates – Pg. 14, l. 9-12 CIT-6 (a zincosilicate)

Pure-silica – Pg. 2, l. 26-28; Pg. 14, l. 9-12 (Si-Beta); Pg. 15-17, Table 1 Si-MFI; Si-Beta OH

It is submitted that the amendments to claims 1, 16 and 31 are fully supported by the specification and do not introduce new matter into those claims.

The Rejections

Claims 1-3, 6-10, 12-18, 21-25 and 27-45 stand rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 5,980,859 ("Gajda et al.").

Claims 1-10, 12, 14, 15-25, 27, 29-42, 44 and 45 stand rejected under 35 U.S.C. 102(e) as anticipated by U. S. Patent No. 6,165,439 ("Benazzi et al.").

Claims 1-3, 10, 12-18, 25 and 27-45 stand rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 5,508,019 ("Saxton et al.").

Claims 11 and 26 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Saxton et al.

Claim 46 is allowed.

Arguments

Gajda et al. discloses the treatment of aluminosilicate zeolite beta to dealuminate the zeolite. The zeolite is treated with an acid at elevated temperature up to 100°C (see col. 3, l. 27-29). Gajda does not disclose or suggest treatment of borosilicates, zincosilicates or pure-silica molecular sieves.

Claims 10, 25 and 40 call for the treatment of Applicants' borosilicates, zincosilicates or pure-silica molecular sieves at 135°C. Claims 11, 26 and 41 call for such treatment at 160-185°C. These temperatures are significantly higher than Gajda et al.'s maximum temperature of 100°C. Acid treatment of Applicants' molecular sieves at these higher temperatures results in healing of defects in the framework of the molecular sieve and a

significant increase in hydrophobicity (see the specification at pg. 6, l. 29-31; pg. 7, l. 10-14; and pg. 8, l. 30 to pg. 9, l. 5). Gajda et al. does not disclose or suggest healing of framework defects or increasing hydrophobicity.

Benazzi et al. discloses an NU-86 zeolite comprising silicon and at least one element T selected from aluminum, iron, gallium and boron. The preferred T element is aluminum and all of the examples use the aluminosilicate form of NU-86. The NU-86 is dealuminated by treatment with an acid at about 100°C.

It is submitted that the lack of exemplification of Applicants' borosilicates, zincosilicates or pure silica molecular sieves is insufficient to allow one of ordinary skill in the art to predict what will happen to those materials when they are treated with acid. Furthermore, Benazzi et al.'s treatment temperature of "about 100°C" is significantly lower than Applicants' treatment temperature of 135°C or 160-185°C. It is submitted that a 35+% difference in temperature is well outside the scope of the term "about".

It is submitted that there is nothing in Benazzi et al. that would allow one of ordinary skill in the art to predict the "healing" or annealing that occurs under Applicants' treatment conditions.

Like Gajda et al., Saxton et al. discloses the dealumination of crystalline aluminosilicates. There is no teaching or suggestion of Applicants' borosilicates, zincosilicates or pure-silica molecular sieves.

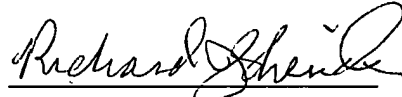
Saxton et al.'s aluminosilicates are dealuminated by treating the material with a water soluble organic sulfonic acid at a temperature of from 0-200°C. However, Saxton et al.'s preferred temperatures are 40-120°C, and the examples are conducted at 80°C and 100°C.

It is submitted that the disclosure in Saxton et al. is insufficient to allow one of ordinary skill in this art to predict the outcome of treating Applicants' borosilicates, zincosilicates or pure-silica molecular sieves, especially at Applicants' claimed temperatures.

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From the foregoing, it is submitted that Applicants' claimed invention is novel and nonobvious in view of the cited art. Accordingly, allowance of all claims is requested.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Richard J. Sheridan", written over a horizontal line.

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